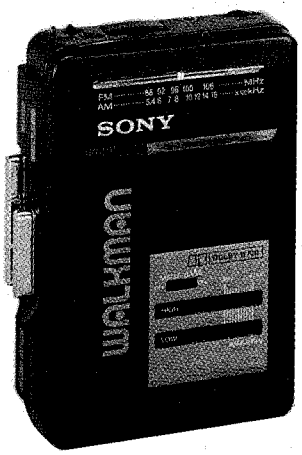
WM-BF49

SERVICE MANUAL

AEP Model
UK Model

CB28



Model Name Using Similar Mechanism	WM-BF44
Tape Transport Mechanism Type	MF-WMBF49-04

SPECIFICATIONS

Radio
FM: 87.6—107 MHz (W. Germany),
87.5—108 MHz (Italy), 87.6—107.9 MHz (Others)
AM: 526.5—1,606.5 kHz (Italy),
531—1,602 kHz (Others)

Power requirements
3 V DC Batteries R6(AA) × 2
BP-700 rechargeable battery
External DC 3 V power sources

Battery life
(Approximate hours)

	Playback	FM
Sony Alkaline AM3 (N)	8 hrs.	30 hrs.
Rechargeable BP-700	2 hrs.	6 hrs.

Accessories supplied
Stereo headphones (open-air type, 1) Beltclip (1) Battery tube (1)

Optional accessories
Rechargeable battery (BP-700)/charger (BC-700) kit BPC-700K*
AC power adaptor AC-D2L
Car battery cord DCC-70
Battery case EBP-500B
Stereo active speaker system SRS-30, SRS-50

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

MICROFILM

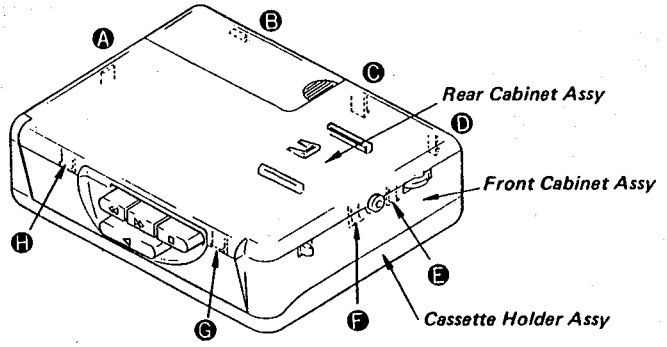
RADIO CASSETTE PLAYER

SONY®

SECTION 1
DISASSEMBLY

Location and shape of claws

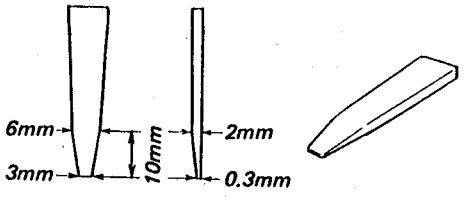
The symbols (Ⓐ – Ⓗ) show the order to uncouple the linkage of the claw, and names of the parts.



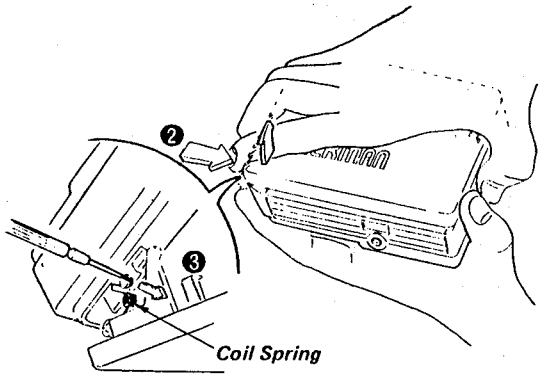
Note: Follow the disassembly procedure the numerical order given.

Tools: Precision Screwdrivers (⊖ , width 0.8mm, 1.4mm, and 2.0mm)
Adhesive tape 1–2cm
Wedge (hand made)

Material . . . soft plastic (such as PVC) etc.
Sizes are for the reference.



[1] Cassette Holder Removal

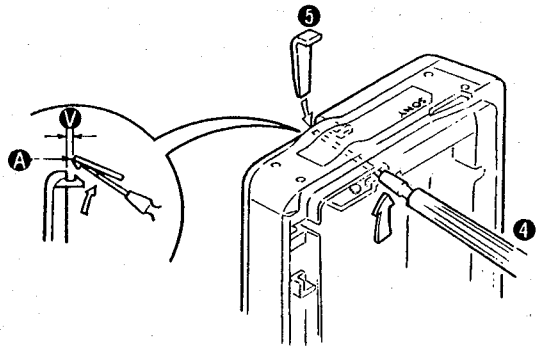


❶ Open the cassette holder.

❷ While pressing the edge of the cassette holder, pull up it in order to take off the cassette holder.

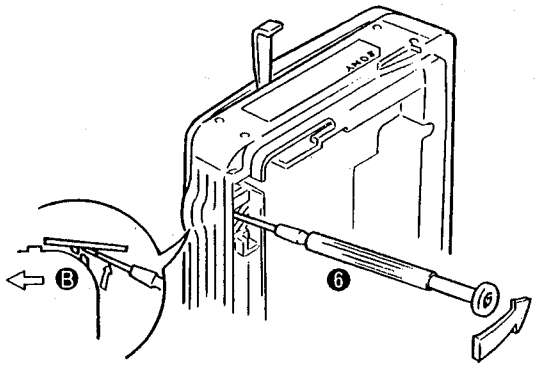
❸ Take off the end of coil spring with a precision screwdriver (width: 0.8mm).

[2] Rear Cabinet Removal

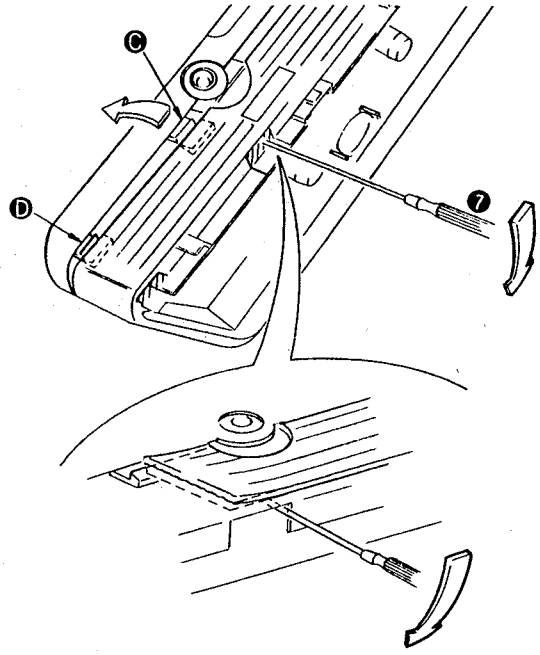


❹ Insert a precision screwdriver (width: 2.0mm) into the slit of front cabinet, lift the front cabinet as shown in the figure for making a clearance (Ⓥ).

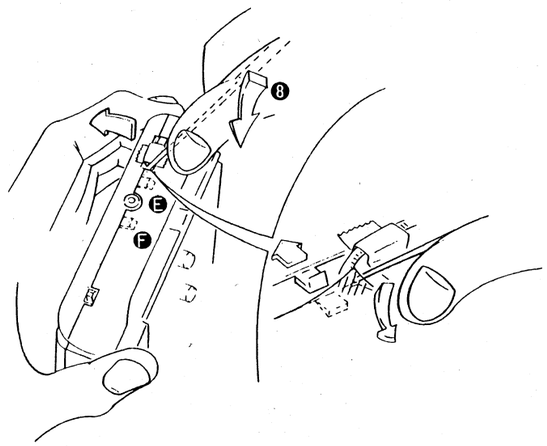
❺ Insert a wedge in the clearance.



❻ Insert a precision screwdriver (width: 2.0mm), and lift the front cabinet so that the claw Ⓑ comes off.

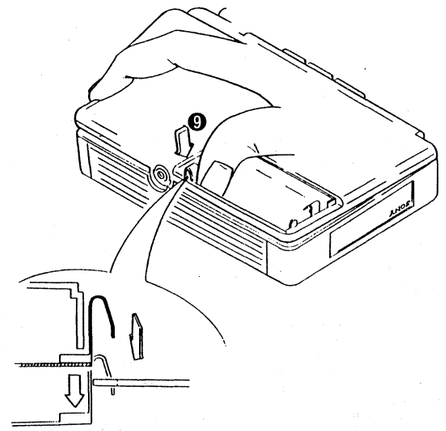


❼ In a similar way as procedure ❻ , uncouple the linkage of the claw Ⓒ and Ⓓ .



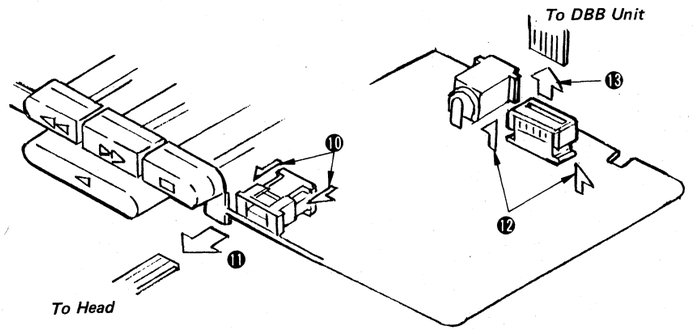
❽ Put a adhesive tape on the volume for protection. Insert a precision screwdriver (width: 1.4 mm) and lift the shaded portion, so that the claw Ⓔ and Ⓕ come off.

CAUTION: Be sure not to touch the volume knob, when inserting precision screwdriver.

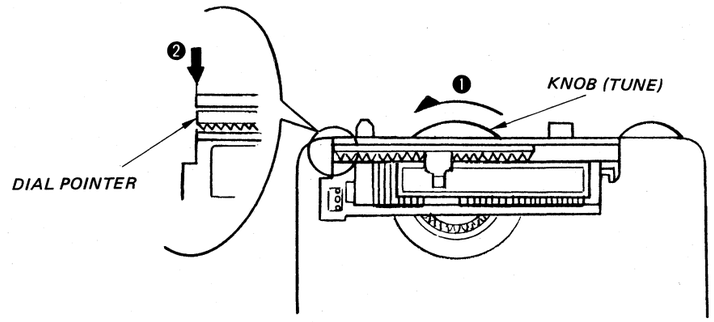


❾ Press down the battery terminals in order to leave Mounted PCB in the rear cabinet, and then remove the rear cabinet.

[3] Flexible Board Removal



DIAL POINTER Setting



SECTION 2
MECHANICAL AND ELECTRICAL ADJUSTMENT

MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured—alcohol—moistened swab :
   playback head　　pinch roller
   capstan　　idlers
   rubber belts
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Meter Reading	Torque Meter
Foward	22—45g · cm (0.31—0.63oz · inch)	CQ-102C
Fast Forwand	55—130g · cm (0.77—1.82oz · inch)	CQ-201B
Rewind	55—150g · cm (0.77—2.1oz · inch)	CQ-201B
Back Tension	1—2g · cm (0.014—0.28oz · inch)	CQ-102C

Tape Tension Measurement

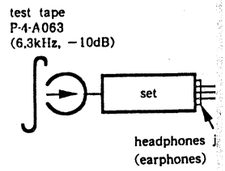
Meter	Meter Reading
CQ-403A	more than 90g (1.26oz)

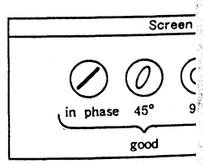
ELECTRICAL ADJUSTMEN
CASSETTE SECTION

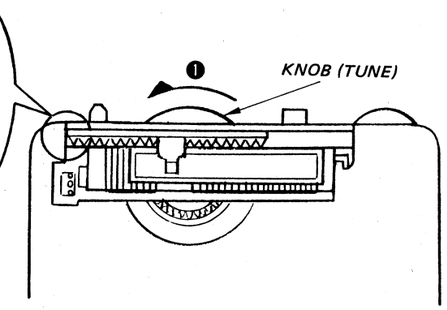
Playback Head Phase Che

Note :When replacing the hea phases.

Procedure :
Phase Check
Mode : playback







SECTION 2
CAL AND ELECTRICAL ADJUSTMENTS

TS

TION

ith a denatured–alcohol–

roller

ad with a head demagne–

wdriver for the adjustments.

suitable locking compound

performed with the rated

otherwise noted.

ading	Torque Meter
· cm z · inch)	CQ-102C
· cm z · inch)	CQ-201B
· cm z · inch)	CQ-201B
cm z · inch)	CQ-102C

Meter Reading
more than 90g (1.26oz)

ELECTRICAL ADJUSTMENTS
CASSETTE SECTION

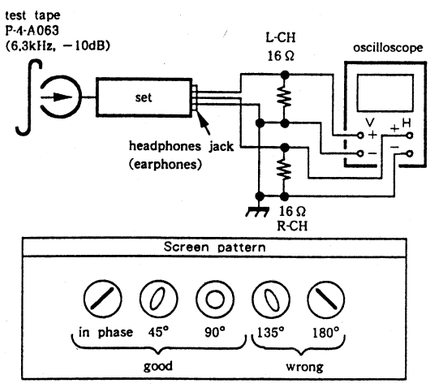
Playback Head Phase Check

Note :When replacing the head, check the both L-ch and R-ch phases.

Procedure :

Phase Check

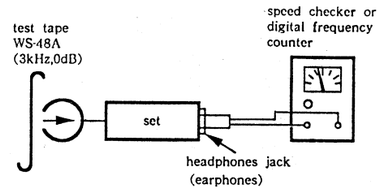
Mode : playback



Tape Speed Adjustment

Procedure :

Mode : playback

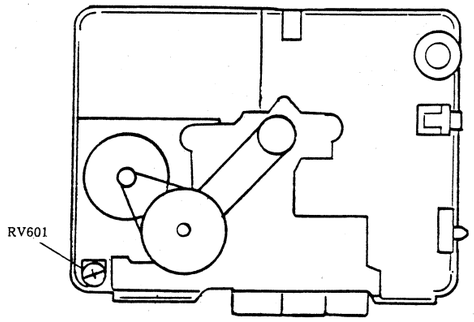


Specification :

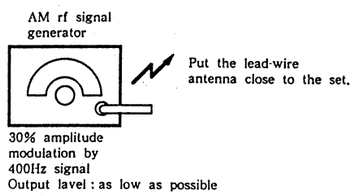
speed checker	digital frequency counter (TAPE END)
±0.5%	2,995–3,025Hz

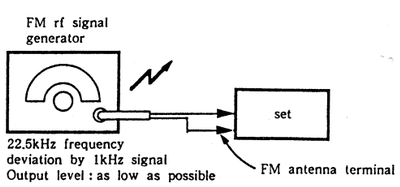
Frequency difference between the beginning and the end of the tape should be within ±1.5% (±45Hz).

Adjustment Location



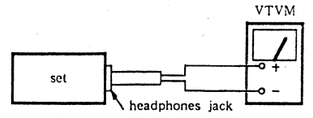
ELECTRICAL ADJUSTMENTS
TUNER SECTION





Note :

BAND SW at MONO.



WG: West Germany

●Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM Frequency Coverage Adjustment

( ) : WG model

Pointer position	SG frequency	Adjustment part	Reading on VTVM
f minimum	87.0MHz (87.35MHz)	L3	maximum
f minimum	109.0MHz (107.8MHz)	CT3	

FM Tracking Adjustment

SG and set frequency	Adjustment part	Reading on VTVM
87.0MHz (87.35MHz)	L2	maximum
109.0MHz (107.8MHz)	CT2	

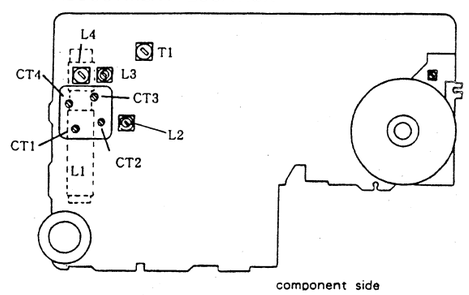
MW Frequency Coverage Adjustment

Pointer position	SG frequency	Adjustment part	Reading on VTVM
f minimum	520kHz (526.5kHz)	L4	maximum
f minimum	1,650kHz (1,606.5kHz)	CT4	

MW Tracking Adjustment

SG and set frequency	Adjustment part	Reading on VTVM
620kHz	L1	maximum
1,400kHz	CT1	

ADJUSTMENT LOCATION



SECTION 3
DIAGRAMS

3-1. PRINTED WIRING BOARDS

Note:

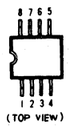
- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▒▒ : Pattern on the side which is seen.
- ▒▒ : Pattern of the rear side.
- [ ] : Printed resistors extracted from the rear side.

● Semiconductor Location

Ref. No.	Location
IC1	D-11
IC301	H-12
IC601	D-2
Q1	F-11
Q2	F-12
Q101	I-11
Q201	G-12
Q301	I-9

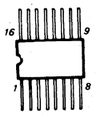
● Semiconductor Lead Layouts

AN6650

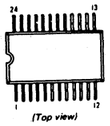


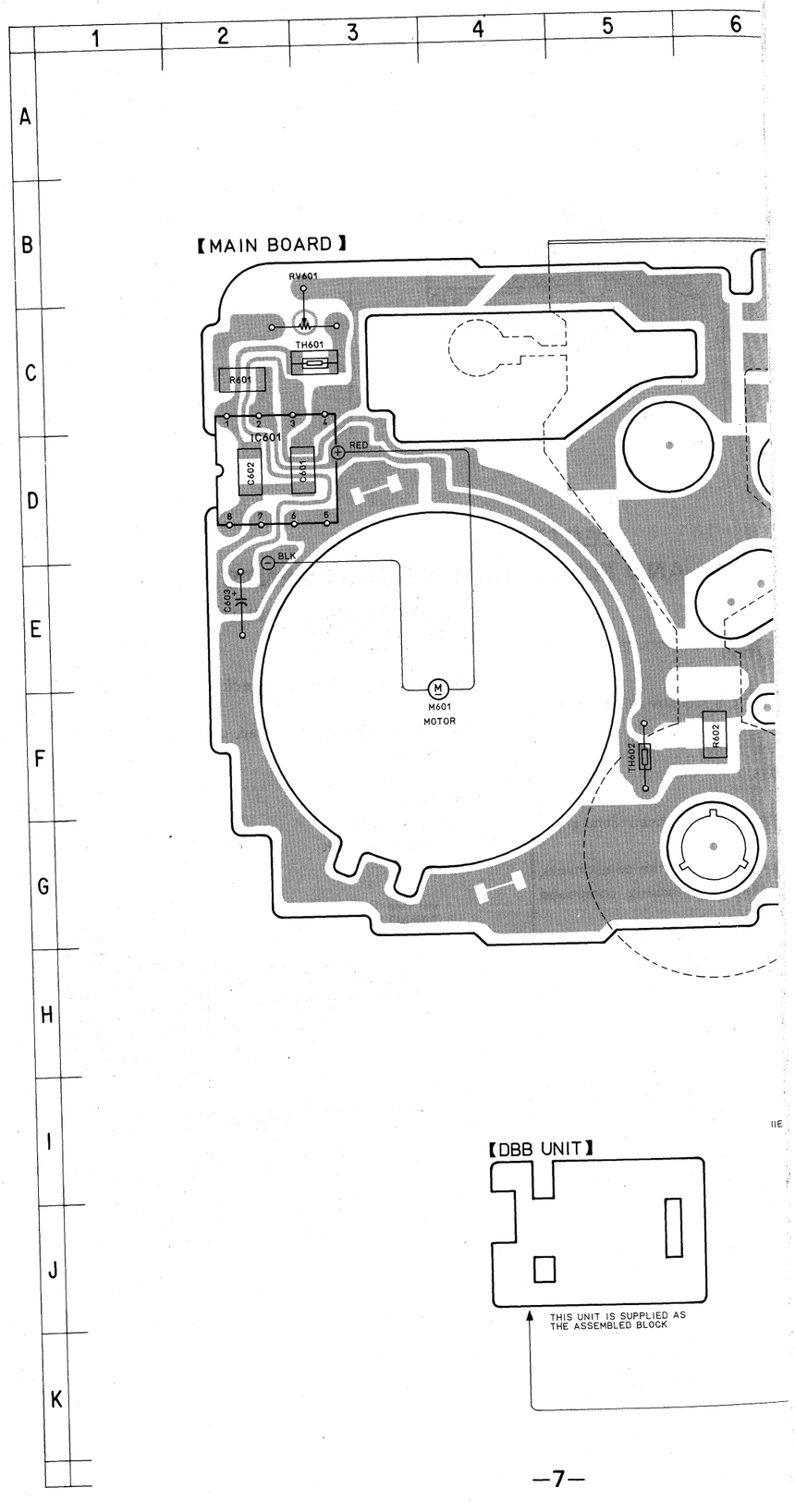
DTA114TK
2SC1623

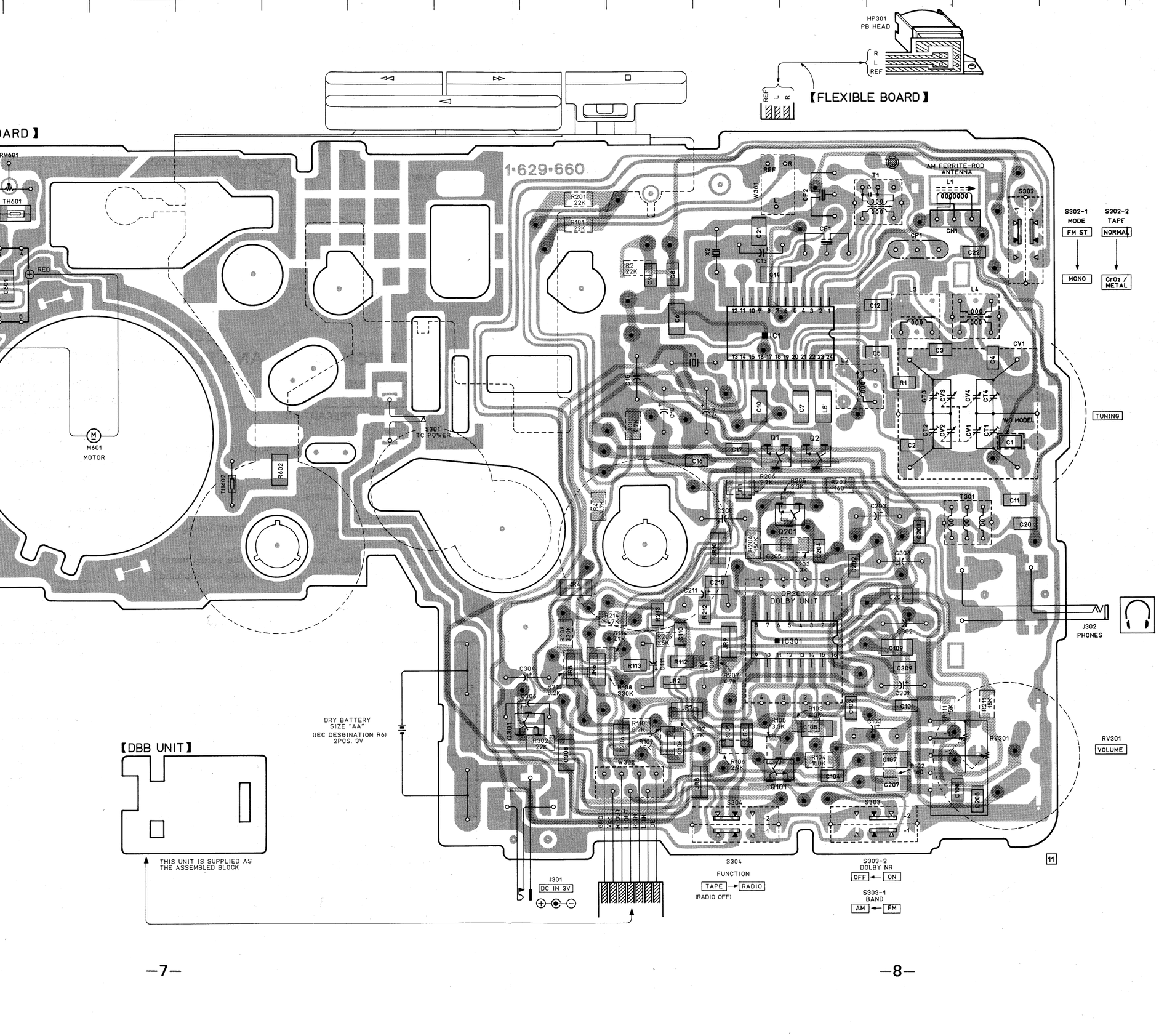
LA4570M

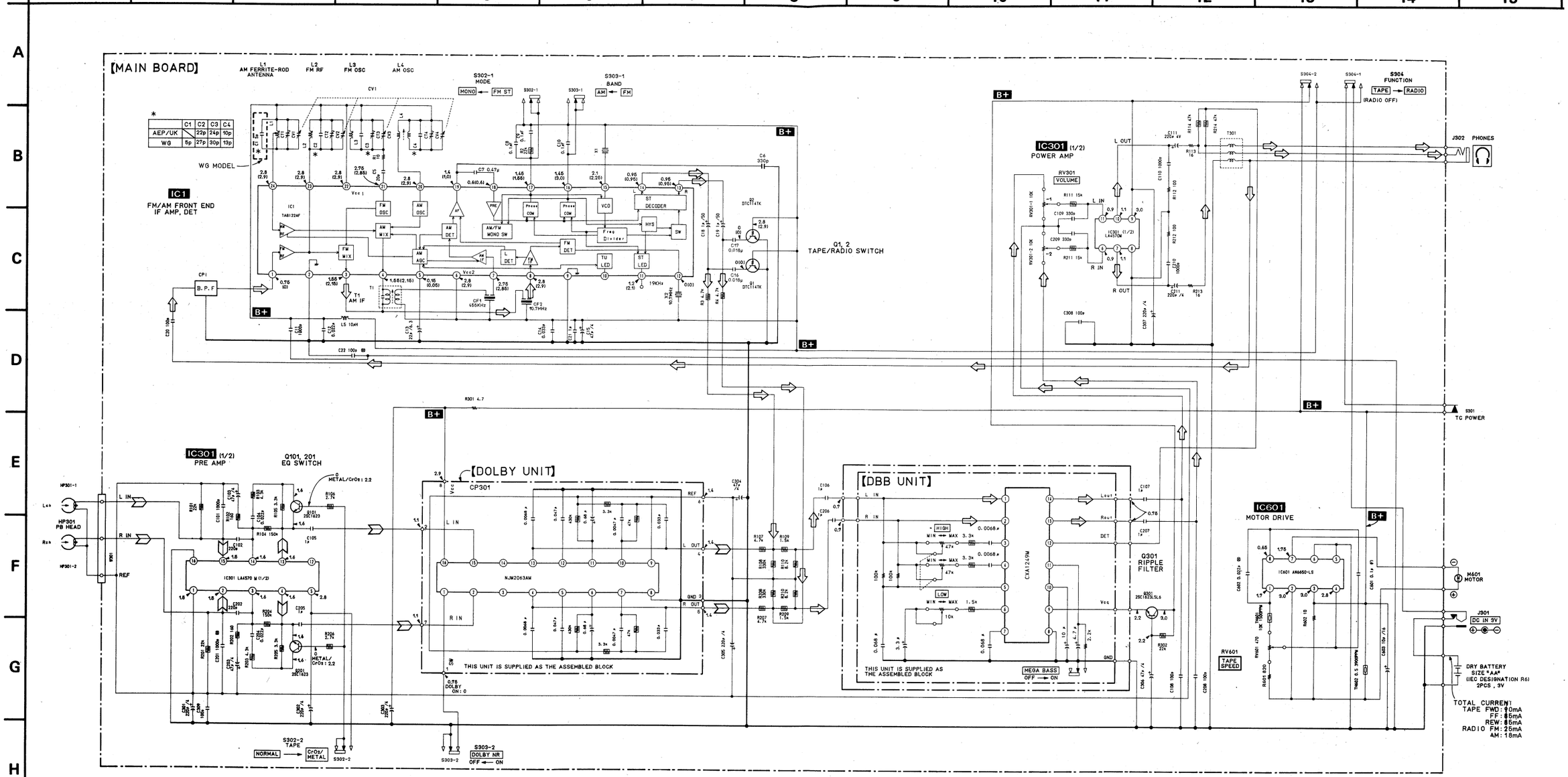


TA8122AF






HP301
PB HEAD
R
L
REF
REF L R
【FLEXIBLE BOARD】
1-629-660
AM FERRITE-ROD ANTENNA
S302
S302-1
MODE
FM ST
MONO
S302-2
TAPE
NORMAL
CrO2 / METAL
TUNING
W8 MODEL
RV601
TH601
RED
M601
MOTOR
S301
TC POWER
TH602
R602
R201 22K
R101 22K
R2 22K
IC1
X1
X2
Q1
Q2
T1
T301
CP1
CP2
CN1
CV1
L1
L3
L4
R1
C1
C2
C3
C4
C5
C7
C10
C11
C12
C13
C14
C16
C17
C20
C21
C22
R202 2.7K
R203 4.3K
R204 150K
R205 2.2K
R206 160
C201
C202
C203
C204
C205
C206
C208
C209
C210
C211
R209 1.5K
R210 100K
R211 47K
R212
R213
R214 47K
CP301
DOLBY UNIT
IC301
J302
PHONES
RV301
VOLUME
R101 15K
R102 160
R103 4.3K
R104 150K
R105 4.3K
R106 2.2K
R107 4.7K
R108 330K
R109 8.2K
R110 8.2K
R111 15K
R112
R113
C101
C102
C103
C104
C105
C106
C107
C108
C109
C111
C112
C113
C114
C207
C208
C301
C302
C303
C304
C305
C306
C307
C308
C309
R301
R302 22K
W301
W302
IR1
IR2
IR3
IR4
IR5
IR6
IR7
IR8
IR9
J87
GND
Vcc
ROUT
LOUT
RIN
LIN
DET
DRY BATTERY
SIZE "AA"
(IEC DESGINATION R6)
2PCS. 3V
【DBB UNIT】
THIS UNIT IS SUPPLIED AS
THE ASSEMBLED BLOCK
J301
DC IN 3V
S304
FUNCTION
TAPE
RADIO
(RADIO OFF)
S303-2
DOLBY NR
OFF
ON
S303-1
BAND
AM
FM
S303
S304
11



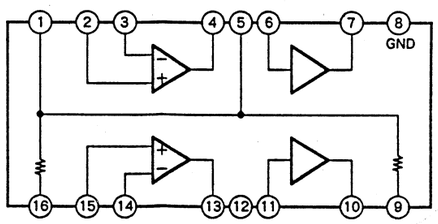
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/8 W or less unless otherwise specified.
- △ : internal component.
- ⊣W⊢ : printed resistor.
- Total current is measured with no cassette installed.
- Power voltage is dc 3 V and fed with regurated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: PB, FM
  ( ): AM
- B+ : B+ Line
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM ⇨ : PB
- Switch

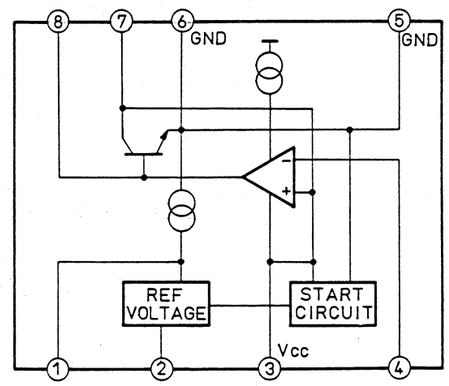
Ref. No.	Switch	Position
S301	TC POWER	OFF
S302-1	MODE	FM ST
S302-2	TAPE	NORMAL
S303	DOLBY NR	ON

• IC BLOCK DIAGRAMS

IC301 LA4570M



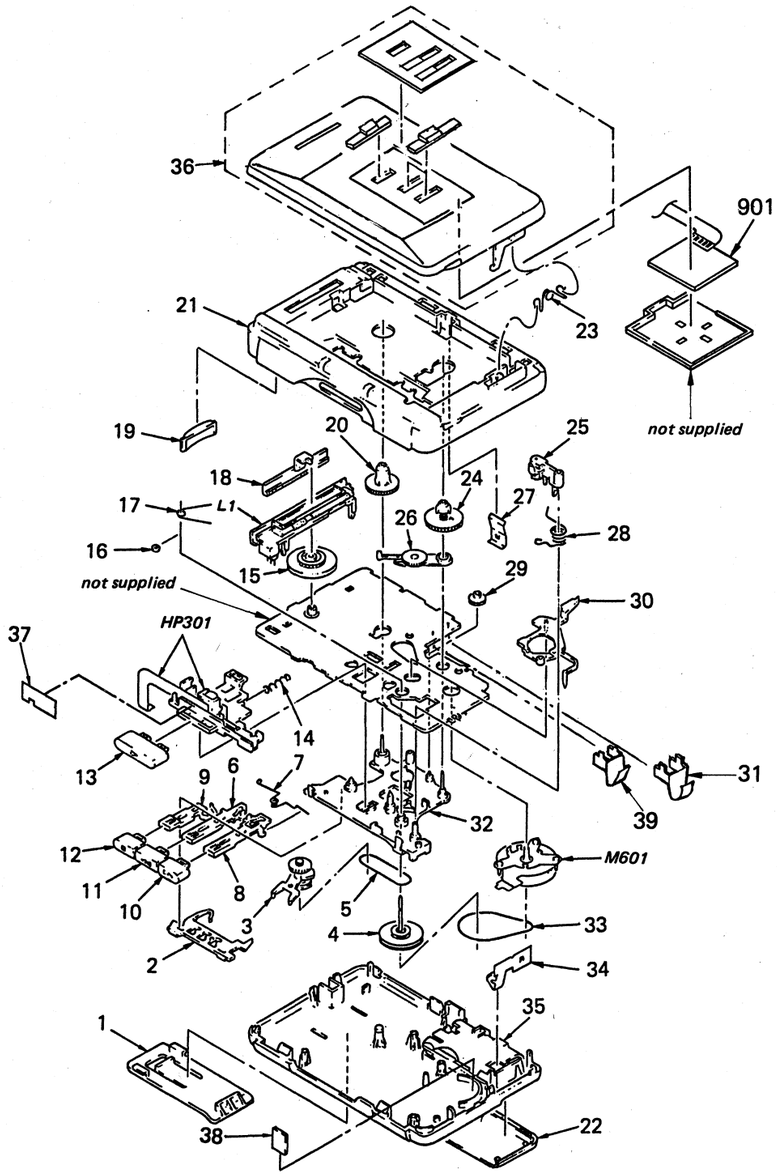
IC601 AN6650



SECTION 4
EXPLODED VIEW

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color



No.	Part No.	Description	Remarks
1	3-346-518-01	CLIP, BELT	
2	3-346-522-01	PLATE, LOCK	
3	X-3346-503-1	GEAR ASSY, MIDWAY	
4	X-3346-505-1	WHEEL ASSY, CAPSTAN	
5	3-335-604-01	BELT, MIDWAY	
6	3-346-527-01	LEVER (REW)	
7	3-346-539-01	SPRING (FR)	
8	3-346-526-01	LEVER (FF)	
9	3-346-528-01	LEVER (STOP)	
10	3-346-513-11	BUTTON (FF)	
11	3-346-514-11	BUTTON (REW)	
12	3-346-515-11	BUTTON (STOP)	
13	3-346-512-11	BUTTON (PLAY)	
14	3-335-605-01	SPRING, COMPRESSION	
15	3-346-502-01	KNOB (TU)	
16	3-343-358-01	RING, RETAINING	
17	3-346-538-01	SPRING (GROUND)	
18	3-346-503-01	POINTER	
19	3-346-504-01	COVER, KNOB	
20	3-346-525-01	GEAR (S REEL)	
21	3-351-501-51	CABINET (FRONT) (CF-A)	

No.	Part No.	Description	Remarks
22	3-346-517-01	LID, BATTERY CASE	
23	3-346-509-01	SPRING	
24	X-3346-502-1	TABLE ASSY, T REEL	
25	X-3334-005-1	PINCH ROLLER ASSY	
26	X-3346-504-1	GEAR ASSY, PLAY	
27	3-346-516-01	SPRING	
28	3-335-608-01	SPRING	
29	3-334-089-01	GEAR, FF	
30	3-346-523-01	LEVER (SHUT-OFF)	
31	3-341-794-01	TERMINAL BOARD, MINUS	
32	X-3346-536-1	BASE ASSY (B), GUIDE	
33	3-351-544-01	BELT (CAPSTAN)	
34	3-334-057-01	TERMINAL BOARD, RELAY	
35	3-351-503-01	CABINET (REAR) (CF-C)	
36	X-3346-714-1	(UK,AEP)...HOLDER (CF-C) ASSY, CASSETTE	
	X-3346-715-1	(WG).....HOLDER (CF-C) ASSY, CASSETTE	
37	*3-347-177-01	SPACER (HI)	
38	*3-338-263-01	CUSHION (U)	
39	3-347-109-01	TERMINAL BOARD, PLUS	
901	1-464-994-11	DBB UNIT	
HP301	A-3108-292-A	PC BOARD ASSY, HEAD	
M601	1-541-650-21	MOTOR	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

Ref.No.	Part No.	Description		
901	1-464-994-11	DBB UNIT		
C1	1-163-088-00	(WG)...CERAMIC CHIP 5PF 0.25PF		50V
C2	1-163-101-00	(UK,AEP)... CERAMIC CHIP 22PF	5%	50V
C2	1-163-103-00	(WG)...CERAMIC CHIP 27PF	5%	50V
C3	1-163-102-00	(UK,AEP)... CERAMIC CHIP 24PF	5%	50V
C3	1-163-104-00	(WG)...CERAMIC CHIP 30PF	5%	50V
C4	1-163-093-00	(UK,AEP)... CERAMIC CHIP 10PF	5%	50V
C4	1-163-094-00	(WG)...CERAMIC CHIP 13PF	5%	50V
C5	1-163-100-00	CERAMIC CHIP 20PF	5%	50V
C6	1-163-193-00	CERAMIC CHIP 330PF	10%	50V
C7	1-162-637-11	CERAMIC CHIP 0.47MF		16V
C8	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C9	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C10	1-163-077-00	CERAMIC CHIP 0.1MF		50V
C11	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C12	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C13	1-126-153-11	ELECT 22MF	20%	6.3V
C14	1-163-078-11	CERAMIC CHIP 0.033MF	10%	25V
C15	1-124-432-00	ELECT 47MF	20%	4V
C16	1-163-024-00	CERAMIC CHIP 0.018MF	10%	50V
C17	1-163-024-00	CERAMIC CHIP 0.018MF	10%	50V
C18	1-126-160-11	ELECT 1MF	20%	50V
C19	1-126-160-11	ELECT 1MF	20%	50V
C20	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C21	1-162-611-00	CERAMIC CHIP 1MF		25V
C22	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C101	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C102	1-163-125-00	CERAMIC CHIP 220PF	10%	50V
C103	1-124-432-00	ELECT 47MF	20%	4V
C104	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C105	1-162-611-00	CERAMIC CHIP 1MF		25V
C106	1-162-611-00	CERAMIC CHIP 1MF		25V
C107	1-162-611-00	CERAMIC CHIP 1MF		25V
C108	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C109	1-163-193-00	CERAMIC CHIP 330PF	10%	50V
C110	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C111	1-124-434-00	ELECT 220MF	20%	4V
C201	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C202	1-163-125-00	CERAMIC CHIP 220PF	10%	50V
C203	1-124-432-00	ELECT 47MF	20%	4V
C204	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V

Ref.No.	Part No.	Description		
C205	1-162-611-00	CERAMIC CHIP 1MF		25V
C206	1-162-611-00	CERAMIC CHIP 1MF		25V
C207	1-162-611-00	CERAMIC CHIP 1MF		25V
C208	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C209	1-163-193-00	CERAMIC CHIP 330PF	10%	50V
C210	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C211	1-124-434-00	ELECT 220MF	20%	4V
C301	1-124-434-00	ELECT 220MF	20%	4V
C302	1-124-434-00	ELECT 220MF	20%	4V
C303	1-124-434-00	ELECT 220MF	20%	4V
C304	1-124-432-00	ELECT 47MF	20%	4V
C305	1-124-434-00	ELECT 220MF	20%	4V
C306	1-124-432-00	ELECT 47MF	20%	4V
C307	1-124-434-00	ELECT 220MF	20%	4V
C308	1-163-181-00	CERAMIC CHIP 100PF	10%	50V
C309	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C601	1-163-077-00	CERAMIC CHIP 0.1MF		50V
C602	1-163-063-00	CERAMIC CHIP 0.022MF	10%	50V
C603	1-126-157-11	ELECT 10MF	20%	16V
CF1	1-527-870-00	(AEP,WG)...FILTER, CERAMIC		
CF1	1-567-129-00	(UK).....FILTER, CERAMIC		
CF2	1-577-344-71	FILTER, CERAMIC (10.7MHz)		
CN1	*1-565-285-11	HOUSING, CONNECTOR(PC BAORD)3P		
CP1	1-236-022-11	FILTER, BAND PASS		
CP301	1-466-099-11	DOLBY UNIT		
CV1	1-151-629-11	CAP, VAR, POLYETHYLENE		
HP301	A-3108-292-A	PC BOARD ASSY, HEAD		
IC1	8-759-230-39	IC TA8122AF		
IC301	8-759-820-19	IC LA4570M		
IC601	8-759-403-83	IC AN6650		
J301	1-568-228-11	JACK, EXTERNAL POWER (DC IN 3V)		
J302	1-565-287-11	JACK (PHONES)		
JR1	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR2	1-216-295-00	METAL GLAZE 0	5%	1/10W
JR3	1-216-295-00	METAL GLAZE 0	5%	1/10W
JR4	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR5	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR6	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR7	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR8	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR9	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR10	1-216-296-00	METAL GLAZE 0	5%	1/8W

Ref.No.	Part No.	Description
L1	1-402-412-11	ANTENNA, FERRITE-ROD (AM)
L2	1-459-955-11	(UK,AEP)...COIL (WITH CORE)(FM RF)
L2	1-459-956-11	(WG).....COIL (WITH CORE)(FM RF)
L3	1-459-953-11	(UK,AEP)...COIL (WITH CORE)(FM OSC)
L3	1-459-954-11	(WG).....COIL (WITH CORE)(FM OSC)
L4	1-406-329-11	(WG)....COIL (OSC)(AM)
L4	1-406-330-11	(UK)....COIL (OSC)(AM)
L4	1-406-331-11	(AEP)...COIL (OSC)(AM)
L5	1-410-204-31	INDUCTOR CHIP 10UH
M601	1-541-650-21	MOTOR
Q1	8-729-902-99	TRANSISTOR DTC114TK
Q2	8-729-902-99	TRANSISTOR DTC114TK
Q101	8-729-100-66	TRANSISTOR 2SC1623
Q201	8-729-100-66	TRANSISTOR 2SC1623
Q301	8-729-100-66	TRANSISTOR 2SC1623
R1	1-216-001-00	METAL GLAZE 10 5% 1/10W
R2	1-249-433-11	RES,CARBON 22K 5% 1/32W
R3	1-249-425-11	RES,CARBON 4.7K 5% 1/32W
R4	1-249-425-11	RES,CARBON 4.7K 5% 1/32W
R101	1-249-433-11	RES,CARBON 22K 5% 1/32W
R102	1-000-030-11	RES,CARBON 160 5% 1/32W
R103	1-215-436-00	RES,CARBON 4.3K 5% 1/32W
R104	1-215-473-00	RES,CARBON 150K 5% 1/32W
R105	1-249-423-11	RES,CARBON 3.3K 5% 1/32W
R106	1-249-422-11	RES,CARBON 2.7K 5% 1/32W
R107	1-249-425-11	RES,CARBON 4.7K 5% 1/32W
R108	1-215-481-00	RES,CARBON 330K 5% 1/32W
R109	1-249-419-11	RES,CARBON 1.5K 5% 1/32W
R110	1-249-428-11	RES,CARBON 8.2K 5% 1/32W
R111	1-249-431-11	RES,CARBON 15K 5% 1/32W
R112	1-216-025-00	METAL GLAZE 100 5% 1/10W
R113	1-216-006-11	METAL GLAZE 16 5% 1/10W
R114	1-249-437-11	RES,CARBON 47K 5% 1/32W
R201	1-249-433-11	RES,CARBON 22K 5% 1/32W
R202	1-215-402-00	RES,CARBON 160 5% 1/32W
R203	1-215-436-00	RES,CARBON 4.3K 5% 1/32W
R204	1-215-473-00	RES,CARBON 150K 5% 1/32W
R205	1-249-423-11	RES,CARBON 3.3K 5% 1/32W
R206	1-249-422-11	RES,CARBON 2.7K 5% 1/32W
R207	1-249-425-11	RES,CARBON 4.7K 5% 1/32W
R208	1-215-481-00	RES,CARBON 330K 5% 1/32W
R209	1-249-419-11	RES,CARBON 1.5K 5% 1/32W
R210	1-249-428-11	RES,CARBON 8.2K 5% 1/32W
R211	1-249-431-11	RES,CARBON 15K 5% 1/32W
R212	1-216-025-00	METAL GLAZE 100 5% 1/10W
R213	1-216-006-11	METAL GLAZE 16 5% 1/10W
R214	1-249-437-11	RES,CARBON 47K 5% 1/32W
R301	1-216-308-00	METAL GLAZE 4.7 5% 1/10W
R302	1-249-433-11	RES,CARBON 22K 5% 1/32W
R601	1-216-196-00	METAL GLAZE 820 5% 1/8W
R602	1-216-150-00	METAL GLAZE 10 5% 1/8W
RV301	1-238-072-11	RES, VAR, CABON 10K/10K (VOLUME)
RV601	1-238-011-11	RES, ADJ, CARBON 470 (TAPE SPEED)
S301	1-570-549-11	SWITCH, LEAF (TC POWER)
S302	1-571-478-11	SWITCH, SLIDE (SENS/MODE-TAPE)
S303	1-571-478-11	SWITCH, SLIDE (BAND)
S304	1-571-478-11	SWITCH, SLIDE (FUNCTION)
T1	1-404-791-11	(AEP,WG)...TRANSFORMER, IF (AM)
T1	1-404-792-11	(UK).....TRANSFORMER, IF (AM)
T301	1-409-444-11	COIL, TRAP
TH601	1-808-664-21	THERMISTOR, POSITIVE
TH602	1-807-489-41	THERMISTOR (POSITIVE)
W301	*1-565-288-11	HOUSING, CONNECTOR 3P
W302	*1-565-289-11	HOUSING, CONNECTOR 7P
X1	1-577-091-11	OSCILLATOR, CRYSTAL
X2	1-577-344-71	FILTER, CERAMIC

ACCESSORY & PACKING MATERIAL

3-351-508-01	TUBE, PROTECTION
3-786-982-11	MANUAL, INSTRUCTION
8-952-260-91	HEADPHONE MDR-W10L//K SET

9-953-640-11

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